IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS & INTERFERENCES

In re Patent Application of	**Customer No.: 27182**
HUNT, Thomas J. et al.	**Confirmation No.: 3290**
Application No.: 10/668,255	Group Art Unit: 1735
Filed: 09-24-2003	Examiner: STONER, Kiley S.
Title: METHOD FOR BONDING A SPUTTER TARGET TO A BACKING PLATE AND THE ASSEMBLY THEREOF	Docket No. 21256

APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner:

This is a brief in support of an appeal from the final rejection dated June 22, 2010. A Response After Final Rejection under 37 CFR §1.116 was filed October 22, 2010, concurrently with a Notice of Appeal. An Advisory Action was mailed November 26, 2010. A one-month extension of time is attached making this Appeal Brief due on or before January 24, 2011 (January 22nd being a Saturday).

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REAL PARTY IN INTEREST

In accordance with 37 CFR 41.37(c)(l)(i), the real party in interest is Praxair Technology, Inc., the assignee of record.

RELATED APPEALS AND INTERFERENCES

In accordance with 37 CFR 41.37(c)(1)(ii), no other appeals or interferences are known to Appellants, Appellants' legal representative or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

In accordance with 37 CFR 41.37(c)(1)(iii), the status of all claims is as follows:

Claims 1-11, 13-18 and 20 are pending and under consideration. All of the pending claims stand rejected, and are subject to this appeal. A copy of the claims is set forth in the Claims Appendix.

STATUS OF AMENDMENTS

In accordance with 37 CFR §41.37(c)(1)(iv), a Response After Final Rejection under 37 CFR §1.116 was filed October 22, 2010. The Response After Final Rejection under 37 CFR §1.116 was entered and considered but allegedly failed to place the above-identified application in condition for allowance.

SUMMARY OF THE INVENTION

In accordance with 37 CFR 41.37(c)(1)(v), the following is a concise explanation of the subject matter of the invention.

The present invention is generally directed to methods of manufacturing sputtering target assemblies. More specifically, the present invention is directed to the use of a backing plate having a plurality of segmented and spaced-apart ridges on the bonding surface of the backing plates so that the ridges provide a uniform spacing between the target and the backing plate and a uniform solder bonded interface.

In one aspect of the invention, and as set forth in independent claim 1, a method for forming a solder bonded sputter target/backing plate assembly is provided. The method includes: forming a backing plate with a bonding surface having a plurality of segmented and spaced-apart ridges that are machined and disposed on and within the periphery of the bonding surface of the backing plate, which perform as spacers/standoffs for the supply of solder material between said backing plate and a sputter target; forming said sputter target from a ferromagnetic material and having a sputtering surface and substantially flat bonding surface, and wherein the backing plate and the sputter target have similar coefficients of thermal expansion; applying said solder material to the interface spaces defined by superimposing said sputter target within the periphery of and onto the plurality of ridges on the backing plate; and allowing said solder material to solidify and bond the sputter target to the backing plate so that the plurality of ridges provide an effective uniform thickness solder bonded interface. See claim 1.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

In accordance with 37 CFR 41.37(c)(1)(vi), the following is a concise statement of the ground of rejection presented for review:

I. Whether claims 1-11, 13-18 and 20 are properly rejected under 35 U.S.C. §112, first paragraph as allegedly lacking written description support.

II. Whether claims 1-11, 13-18 and 20 are properly rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellants regard as the invention.

III. Whether claims 1-11, 13-18 and 20 are properly rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Japanese Patent No. 402043362 (Ogata et al) in view of Appellants' Admitted Prior Art (AAPA) and U.S. Patent Publication No. 2001/0032686 (Shindo et al).

ARGUMENT

In accordance with 37 CFR 41.37(c)(l)(vii), the contentions of Appellants with respect to the above grounds for rejections presented for review are set forth.

I. Rejection of Claims 1-11, 13-18 and 20 Under 35 U.S.C. §112, first paragraph

The Official Action maintains that the claimed feature added to independent claims 1 and 18 reciting "wherein the backing plate and the sputter target have similar coefficients of thermal expansion" allegedly lacks written description support. The Examiner bases the rejection on Appellants' failure to cite the claimed feature verbatim in their specification.

This reasoning, however, is inadequate as a matter of law. The law is well-established that the subject matter of a later claim need not be described with the exact, literal language of the earlier disclosure. *See, e.g., Martin v. Johnson*, 454 F.2d 746, 751 (CCPA 1972) (stating "the description need not be in *ipsis verbis* [i.e., "in the same words"] to be sufficient"). The PTO Board decisions also follow suit. *See, e.g., Ex parte Rodgers*, 27 USPQ2d 1738, 1743 n.11 (Bd. Pat. App. & Int'f 1992) ("It is not necessary that the claimed subject matter be described identically, but the disclosure originally filed must convey to those skilled in the art that the applicant had invented the subject matter later claimed."). What is necessary is not an identity of description but rather an identity of "that which is described." *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1295-96 (Fed. Cir. 2002). The identity of "that which is described" must reasonably convey to persons skilled in the art that the inventor had possession of the subject matter. *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570 (Fed. Cir. 1996). Accordingly, the proper inquiry for adequate written description does not depend on a particular claim format, but rather on whether the patent's description would show to those of ordinary skill in the art that the inventors possessed the claimed invention at the time of filing. The presumption of adequacy of the disclosure remains until the Examiner can prove to the contrary by a preponderance of the evidence. "The examiner has the initial burden of presenting by a preponderance

of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims." *See* MPEP §2163.04 (*citing In re Wertheim*, 541 F.2d 257, 263 (CCPA 1976)). This test has not been met by the requisite burden of proof.

Applying this written description requirement inquiry to Appellants' pending application reveals that Appellants had possession of the claimed subject matter as of their filing date. In addition, Appellants have previously submitted on May 21, 2010, a listing of the coefficient of thermal expansions entitled "Comparison of Materials: Coefficient of Thermal Expansion" which shows comparable or overlapping ranges for the ferromagnetic materials previously claimed. The submission substantiates that those skilled in the art have known the coefficients of thermal expansion for these materials. Accordingly, the submission constitutes evidence that one of ordinary skill in the art would know Appellants' claimed ferromagnetic materials have similar coefficients of thermal expansion, as of the filing date of the present application.

The listed materials in the submission are consistent with the materials of the target and the backing plate that the Appellants describe in their specification. Appellants' specification at paragraph [0018] explicitly identifies the contemplated materials having the comparable or overlapping coefficients of thermal expansion which can be used to form the target and backing plate. This list formed part of the original disclosure as filed and constitutes a carefully crafted list of exemplary materials Appellants have always intended to use in their present invention. Moreover, Appellants recognize and distinguish their list of contemplated materials from preferred materials. To this end, Appellants provide a list of preferred material pairings for the sputter target/backing plate at paragraph [0018]. The preferred list of material pairings for the target and the backing plate are selected to have minimal differences in coefficients of thermal expansion to thereby facilitate "effective uniform thickness solder bonded interface" as recited in all the claims. The specification unmistakably guides those skilled in the art to pair various materials to arrive at the preferred sputter target/backing plate combinations. Clearly, the specification supports the claimed

recitation. Skilled persons in the art would recognize the materials claimed by the Appellants based on the written description. The fact that Appellants' claimed feature of similar coefficients of thermal expansion is not described with the exact, literal language of the earlier disclosure is not determinative of the issue of whether written support exists in the originally-filed specification. One of skill in the art would recognize that the contemplated and preferred list of materials provided by Appellants in the originally filed specification contain similar coefficients of thermal expansion. Accordingly, to maintain the written description rejection would let form triumph over substance and thereby eviscerate the claimed subject matter.

Further, the record as a whole unequivocally distinguishes the claimed subject matter from the prior art. Throughout the prosecution record, Appellants have provided remarks that distinguish themselves from Ogata et al. Ogata et al teaches a target assembly that incurs warpage, as a result of using materials having dissimilar coefficients of thermal expansion, but for interconnected channels continuously extending along the surface of the backing plate. Appellants have provided remarks emphasizing that they do not teach using materials with large differences in thermal expansion for the target and backing plate. Rather, Appellants teach materials having comparable or overlapping ranges of coefficients of thermal expansion to achieve the advantages mentioned in paragraph [0026], including "uniform thickness" at the solder bonded interface. Consequently, when "similar coefficients of thermal expansion" is interpreted in view of the patent specification, the prior art, Appellants' remarks throughout the prosecution record including its May 21, 2010 submission, it is evident that one of skill in the art would recognize that Appellants had possession of inventive subject matter directed to a method of bonding a target to a backing plate having similar coefficients of thermal expansion as of the filing date of the application.

For the aforementioned reasons, the specification satisfies the written description standard such that one of skill in the art would be reasonably apprised of the scope of the invention. What is now claimed by Appellants is the same as

what has always been disclosed in the specification. Consequently, the Examiner has not established a *prima facie* case for lack of written description.

II. Rejection of Claims 1-11, 13-18 and 20 Under 35 U.S.C. §112, second paragraph

The Official Action maintains that the limitation "similar" added to independent claims 1 and 18 is allegedly indefinite for not providing the requisite degree of similarity. The Examiner seeks a more precise, quantifiable definition of "similar" that is not warranted by the law.

"The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. §112, second paragraph." MPEP 2173.05(b) (*citing* Seattle Box Co., v. Industrial Crating & Packing, Inc., 731 F.2d 818 (Fed. Cir. 1984)). Rather, whether the claim language is sufficiently definitive under 35 U.S.C. §112 depends on whether one of ordinary skill would understand what is claimed in view of the specification, the prior art and the prosecution record as a whole. *Id.* Moreover, the nature of the claimed subject matter must also be considered: "The degree of precision necessary for adequate claims is a function of the nature of the subject matter." *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993). Within this contextual framework, if the claims reasonably apprise those skilled in the art of the scope of the invention, §112 demands no more. *Id.*

On the basis of this legal standard for satisfying 35 U.S.C. §112, second paragraph, the Examiner's insistence for a more precise meaning goes well beyond that required by the patent law. The requisite degree of similarity between the coefficients of thermal expansion has been demonstrated by Appellants' submission of May 21, 2010. The submission does not constitute new matter for the reasons mentioned above. Rather, it is merely evidence of what one of skill in the art has already known at the time of filing. The submission is not broadening the claim scope as Examiner contends, but, rather, merely serving to clarify with greater precision the claim scope of what Appellants have already shown and described in their original disclosure.

Notwithstanding Appellants' submission, the Examiner suggests that Appellants explicitly claim the materials listed in paragraph [0018] of the specification. See, Nov. 26, 2010 Official Action at p. 3. However, this suggestion misses the mark. Specifying the exact materials in the claim is not determinative of the issue of whether the claims satisfy 35 U.S.C. §112, second paragraph. The phrase "similar" is as precise as the subject matter permits, noting that the patent law does not require all possible materials corresponding to "similar" coefficients of thermal expansion be listed in the specification, let alone that they be listed in the claims. Appellants have the right to claim the invention in terms that would be understood by persons of skill in the field of the invention. Here, the claimed features of the invention would be understood by persons of skill in the art. The prosecution record has been sufficiently developed to allow a skilled artisan to realize what "similar" means. Moreover, Appellants already have provided general guidelines in the specification at paragraph [0018] for the contemplated materials along with a representative number of material pairings.

The Examiner's insistence that Appellants provide a list of materials in the claim or a numerical cutoff between their invention and the prior art is impractical. The degree of precision necessary for adequate claims as mentioned above is a function of the nature of the subject matter from the viewpoint of a skilled artisan. Appellants' invention does not reside in a magical number. Here, delineating the claims with a numerical boundary would be impractical because the subject matter of the claimed inventions are directed to a multitude of ferromagnetic target and ferromagnetic backing plate materials having similar coefficients of thermal expansions. "[T]he definiteness of the language must be analyzed-not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." *In re Moore* (1971), 439 F.2d 1232, 1235 (CCPA 1971). One of ordinary skill in the art reading the claim certainly would understand the nature of the language reciting similar coefficients of thermal expansion in light of the specification, Appellants' submission on May 21, 2010, Appellants' remarks during prosecution and the

prior art of record. Such comprehension is all that is required by 35 U.S.C. §112, second paragraph.

Thus, Appellants' claims are not indefinite. The claims set out and circumscribe a particular area with a reasonable degree of precision and particularity from the standpoint of a skilled artisan in accordance with the law.

III. Rejection of Claims 1-11, 13-18 and 20 under 35 U.S.C. §103(a)

Claims 1-11, 13-18 and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Ogaga et al in view of AAPA and further in view of Shindo et al.

Appellants have discovered a unique method for bonding a sputter target to a backing plate to eliminate the problems of non-uniform thickness at the bonded interface. The method utilizes forming a backing plate having segmented and spaced apart ridges on its bonding surface that act as spacers/standoffs to accommodate the supply of solder material therebetween. Further, the sputter target and the backing plate are formed from materials having similar coefficients of thermal expansion. The solder material is applied to the interfaces which are defined by superimposing the sputter target onto the ridges of the backing plate. The solder material thereafter penetrates between the ridges to produce a solder interface with uniform thickness.

Ogata et al is directed to an entirely different method for bonding a sputter target to a backing plate that is designed to eliminate an entirely different problem of warpage. Unlike Appellants' invention, the method of Ogata et al utilizes a brazing material to join a sputter target with a backing plate. As opposed to the claimed ferromagnetic materials with similar coefficients of thermal expansion, the sputter target and backing plate utilized in Ogata et al are non-ferromagnetic materials that have large differences in thermal expansion. Specifically, Ogata et al discloses the use of rare earth materials bonded to copper.

As a result of these different processing conditions, Ogata et al and Appellants employ entirely different structures to achieve their respective end

objectives. Ogata et al relies on an interconnected network of channels (e.g., grooves or slots) that ***continuously extend*** along the surface of the backing plate to eliminate warping. *See* Ogata et al at Figures 2(1), 2(2) and 2(3). On the contrary, Appellants' ***spaced apart and segmented*** ridges, which are structurally distinct from Ogata et al's channels, are designed to accommodate the penetration of solder material therebetween to produce a uniform thickness at the bonded interface. As Figure 1 of Appellants' specification shows, the ridges 10 are discrete structures that do not extend continuously in either the radial direction or along the periphery of the backing plate. Ogata et al, on the contrary, relies on the continuous interconnected network of channels to eliminate warping as a result of the large differences in thermal expansion of the backing plate and the target. Indeed, all of the various channels contemplated by Ogata et al are continuous and interconnected. Figures 2(1) and 2(2) show channels which continuously extend from one edge to another edge of the backing plate surface. Figure 2(3) shows another channel design in which each channel extends continuously along the periphery of the backing plate. A side-by-side comparison of Figures 2(1) – 2(3) of Ogata et al with Figure 1 of Appellant's specification clearly shows these differences. The structures of Ogata et al are different from that of Appellants' because the nature of the problem to be solved by each during the bonding process is different. The continuous and interconnected channels of Ogata et al are designed to prevent warpage of materials with large differences in thermal expansion whereas the discrete ridges of Appellants are designed to allow penetration of material therebetween to produce an interface with a uniform thickness.

Notwithstanding these differences in the methods and the corresponding structures utilized to carry out the design objectives of each of the methods, the Examiner takes the position that the channels of Ogata et al inherently act as spacers/standoffs for the supply of soldering material. This reasoning is inadequate as a matter of law. The law of inherency requires that the descriptive matter expressly missing from the teachings of a prior art reference be necessarily present. "To establish inherency, the extrinsic evidence 'must make clear that the

missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" *See* M.P.E.P. §2112(IV) (*citing In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)) (emphasis added).

Applying this inherency standard to Appellants' claimed inventions reveals that the Examiner has not provided any evidence that would reasonably support the conclusion that Appellants' allegedly inherent claimed features necessarily flows from the teachings of Ogata et al. As previously mentioned, the channels of Ogata et al cannot be reasonably interpreted to be the claimed ridges. The structure of the channels is entirely different from that of the ridges as Ogata et al is focused on solving an entirely different problem from Appellants. As a result of the structures being different, it is not inherent that the channels of Ogata et al function as spacers/standoffs which accommodate the penetration of material therebetween to produce a uniform thickness at the bonded interface. Ogata et al and Appellants are related to different methods of bonding. Each method utilizes a different structure for carrying out the designed objectives thereof. Accordingly, the channels of Ogata et al do not inherently act as spacers.

Even if the channels of Ogata et al ***may*** act as spacers/standoff for the penetration of material therebetween, it is not sufficient as a matter of law to establish inherency. The fact that a certain result or characteristic may occur in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993). The channels, unlike the ridges, are designed to prevent warpage arising from bonding target and backing plate materials with large coefficients of thermal of expansion. The channels are not designed to affect the uniformity of the bond between materials having similar coefficients of thermal expansion. Accordingly, the channels of Ogata et al would not be reasonably inferred by one of ordinary skill to function as spacers/standoffs. As a result, Ogata et al does not establish a *prima facie* case of obviousness, and the PTO has not met their burden of establishing inherency.

The alleged AAPA has been applied for teaching machining of grooves. Nonetheless, the alleged AAPA does not cure the deficiencies discussed in Ogata

et al nor would it be combined with the teachings of Ogata eta al, but for the teachings in Appellants' present invention.

Shindo et al relates to Ni-Fe sputtering targets for forming magnetic thin films. Specifically, Shindo et al relates to a Ni-Fe sputtering target for forming ferromagnetic thin films. Shindo et al at Col. 1, ll. 15-18. Shindo et al has been applied for purportedly disclosing that the backing plate and the target are ferromagnetic materials having similar coefficients of thermal expansion. However, Ogata et al does not provide any suggestion to substitute its bonded materials with that of Shindo et al. Ogata et al is limited to the incorporation of channel structures along the backing plate to facilitate bonding of rare earth materials with copper by eliminating the problem of warpage caused by the bonding of such materials. These are materials with a large difference in thermal expansion. Ogata et al does not contemplate utilizing ferromagnetic materials of similar thermal expansion. Incorporating the teachings of Shindo et al constitutes hindsight. Reconstructing Appellants' invention from hindsight is not permitted: " 'One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.' " *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (citing *In re Fine*, 837 F.2d 1071, 1076 (Fed. Cir. 1988)).

Even if Shindo et al is combined with Ogata et al, albeit incorrectly, Shindo et al does not disclose or suggest the features lacking in either Ogata et al or the alleged AAPA, taken alone or together. Thus, even if combined in the manner suggested, one of ordinary skill in the art would not arrive at the presently claimed invention.

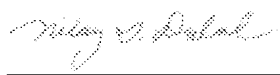
Accordingly, Appellants' utilize a unique combination of ridges and ferromagnetic materials with similar thermal expansion coefficients to manufacture a target assembly having a uniform thickness at the bonded interface. The method of manufacturing the target assembly as in the present invention is different from the applied art.

IV. Conclusion

In view of the foregoing, Appellants respectfully submit that the claimed method of manufacturing a sputter target assembly, meets the requirements of §112, first and second paragraphs, and the features claimed are not disclosed or suggested by the applied art. The appealed claims are, therefore, patentable. Accordingly, reversal of the Examiner's rejections is earnestly solicited.

Please charge fees/surcharge which may be required by this paper, or credit any overpayment, to Deposit Account No. 16-2440.

Respectfully submitted,



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CLAIMS APPENDIX

In accordance with 37 CFR 41.37(c)(1)(viii), the following set of Claims are all the claims involved in this Appeal.

1. (Previously Presented) A method for forming a solder bonded sputter target/backing plate assembly comprising the steps of:

a) forming a backing plate with a bonding surface having a plurality of segmented and spaced-apart ridges that are machined and disposed on and within the periphery of the bonding surface of the backing plate, which perform as spacers/standoffs for the supply of solder material between said backing plate and a sputter target;

b) forming said sputter target from a ferromagnetic material and having a sputtering surface and substantially flat bonding surface, and wherein the backing plate and the sputter target have similar coefficients of thermal expansion;

c) applying said solder material to the interface spaces defined by superimposing said sputter target within the periphery of and onto the plurality of ridges on the backing plate; and

d) allowing said solder material to solidify and bond the sputter target to the backing plate so that the plurality of ridges provide an effective uniform thickness solder bonded interface.

2. (Original) The method of claim 1 wherein the backing plate and sputter target are disc-shaped.

3. (Original) The method of claim 1 wherein the ridges on the bonding surface of the backing plate have a shape selected from the group comprising a circle, arcuate, square, rectangular, polygon and combination thereof.

4. (Original) The method of claim 1 wherein the height of the ridges is between about 0.005 inch and about 0.050 inch.

5. (Original) The method of claim 1 where the thickness of the width of the ridges is between about 0.005 inch and about 0.050 inch.

6. (Original) The method of claim 3 wherein the ridges are arcuate-shaped.

7. (Original) The method of claim 6 wherein the height of the ridges is between about 0.010 inch and about 0.030 inch and the thickness of the width of the ridges is between about 0.010 inch and about 0.030 inch.

8. (Original) The method of claim 7 wherein the height of the ridges is about 0.020 inch.

9. (Original) The method of claim 8 wherein the thickness of the width of the ridges is about 0.020 inch.

10. (Original) The method of claim 6 wherein the radial distance between the adjacent arcuate ridges is between about 0.2 inch and 2.0 inch.

11. (Original) The method of claim 10 wherein the height of the ridges is between about 0.010 inch and about 0.030 inch and the thickness of the width of the ridges is between about 0.010 inch and about 0.030 inch.

12. (Canceled)

13. (Original) The method of claim 1 wherein the backing plate is selected from the group comprising copper, aluminum, titanium, and alloys thereof.

14. (Original) The method of claim 1 wherein the solder is liquid or paste and selected from the group comprising tin-lead, indium-tin, tin-silver, tin-copper, or tin—silver-copper.

15. (Original) The method of claim 14 wherein the sputter target is selected from the group comprising titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, iridium, platinum, gold,

tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, and alloys thereof.

16. (Original) The method of claim 15 wherein the sputter target is selected from the group comprising cobalt, nickel, and alloys thereof.

17. (Original) The method of claim 16 wherein the height of the ridges is between about 0.010 inch and about 0.030 inch and the thickness of the width of the ridges is between about 0.010 inch and about 0.030 inch.

18. (Previously Presented) A solder bonded sputter target/backing plate assembly comprising a backing plate having a plurality of segmented spaced-apart ridges machined and disposed on and within the periphery of the bonding surface of said backing plate, which perform as spacers/standoffs upon supplying a solder material between said backing plate and a sputter target; said sputter target being made of a ferromagnetic material and having a substantially flat sputter surface and a bond surface, and wherein the backing plate and the sputter target have similar coefficients of thermal expansion; said sputter target superimposed onto the plurality of ridges on the bonding surface of the backing plate; and a solder bonded layer disposed between the sputter target and backing plate and between the ridges producing an effective uniform thickness solder bonded interface for the sputter target/backing plate.

19. (Canceled)

20. (Original) The solder bonded sputter target/backing plate assembly of claim 18 wherein the bonded solder is selected from the group comprising tin-lead, indium-tin, tin-silver, tin-copper, or tin—silver-copper.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.